



THE UNIVERSITY OF OKLAHOMA HEALTH SCIENCES CENTER ENVIRONMENTAL HEALTH AND SAFETY OFFICE

SAF! T! GRAM

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Shipping Guidelines

How do you ship human blood? What if you need to import potentially infectious samples or cultures of infectious agents?

First of all, do not misrepresent the contents of your package just to make it "easier" to ship. Rules and regulations are in place to prevent injury and disease, and when something is mislabeled, people can get hurt.

Secondly, call the carrier you want to use and ask them. Be specific about what you want to ship, what quantity you have, and the holding time of the material you are shipping. If that carrier will not ship the material, ask for contacts with other shippers who might. Some useful numbers are:

Shipping Carriers

- U Federal Express, Dangerous Goods Service, 901/922-1666
<http://www.fedex.com/us/services/government/dangerousgoods.html>
<http://www.fedex.com/us/services/government/international/conditions/dangerous.html>
- U United Parcel Service, Hazardous Material Support Center, 800/554-9964
- U United States Post Office, Business Mail Entry, 405/278-6246
- U Airborne Express, Hazardous Materials, 800/426-2323 X2757

Packaging Materials Suppliers

- U Saf-T-Pak, 800/814-7484
<http://www.saftpak.com/>
- U O. Berk International, 800/577-7624

Existing rules, regulations, and guidelines are available online as follows:

- U 42 CFR Part 72, Federal Register, Vol. 45, No. 141-Monday, July 21, 1980, *Interstate Shipment of Etiologic Agents*:
<http://www.cdc.gov/od/ohs/biosfty/shipregs.htm>
- U Centers for Disease Control and Prevention Office of Health and Safety/Biosafety Branch *Importation Permits for Etiologic Agents* (also contains exporting information):
<http://www.cdc.gov/od/ohs/biosfty/impptper.htm>

- U Centers for Disease Control and Prevention, Office of Health and Safety/Biosafety Branch *Packaging and Shipping of Biomedical Material*:
<http://www.cdc.gov/od/ohs/biosfty/shipdir.htm>
- U World Health Organization *Guidelines for the Safe Transport of Infectious Substances and Diagnostic Specimens*:
<http://www.cdc.gov/od/ohs/pdffiles/who97.pdf>
- U Department of Health and Human Services; Public Health Service; 42 CFR Part 72; Final Rule: *Additional Requirements for Facilities Transferring or Receiving Select Infectious Agents* (contact the EHSO first if you intend to transfer or receive such select agents):
<http://www.orcbs.msu.edu/absa/resource/pdf/agents-96.pdf>

In addition, the EHSO has purchased a manual which walks you through the maze of regulations which can be reviewed upon request. Contact the EHSO at 405/271-3000. "

Don't Trash That!

Our paper recycling program has changed. All desktop paper goods are no longer recyclable. Instead, we will be collecting white and colored ledger paper separately. White paper can continue to go into the existing recycling bins. Recycle America will be providing additional bins for colored ledger paper on an as-needed basis. Signs will be posted shortly indicating what type of paper is to be placed in each cart. Here's a quick reference as to what is acceptable:

White ledger; white, uncoated paper from copy or fax machine, letterhead, white legal pad or notebook paper

Colored ledger; pastel colored, uncoated paper from copy machine, and yellow legal paper

Recycle American will **no longer collect** newspapers, phone books or magazines. Employees should dispose of these materials via the regular trash.

If you should have any questions, or if your building needs an additional cart for colored paper, please contact Mary Baisch at 405/271-3000. "

Lab Safety Corner

Wipes Cause Damage

At least two institutions have reported instances where lab employees lost their grip on Kimwipes™ being used during the weekly cleaning of the underside of the work surface and the basin of a Class II Type A/B3 biological safety cabinet (BSC), and the wipes were pulled into the riser on the backside of the BSC. In order to remove the wipes, the BSC had to be decontaminated with formaldehyde gas and then recertified. In one case, the reported cost was \$525. Recommendations from biosafety officers across the nation include:

- ! Use a heavier cleanwipe, such as the ones used in cleanrooms (ex. Texwipe and Technicloth), or disposable towels such as Wipe-alls (available through Grainger Supply).
- ! Soak the wipes or towels with the disinfectant solution before going into the under work surface zone. That way they will be too heavy to be drawn up the riser.

While the newer BSCs have a paper catch in the back, do not place anything in front of the intakes yourself. This can interfere with the airflow and violate the certification. If your lab has a consistent problem with paper being pulled into the BSC, contact the manufacturer for information on retrofitting your unit with a grate or similar trap. "

Fatality Due to Acute HF Exposure

Adapted from: Universities Safety Assn. Digest, Vol. 59, April, 1997
by Bob Kell, Durham University, U.K.

A fatal accident occurred in a laboratory in Australia resulting in the death of a technician. This article looks at the factors that may have contributed to its occurrence.

A standard geology technique, which involved the dissolving of sedimentary rock with mineral acids (hydrochloric and hydrofluoric acid), was being undertaken in a fume hood. The technician involved was believed to be seated when he knocked over a small quantity (between 100 - 230ml) of hydrofluoric acid (HF) onto his lap, splashing both thighs. The only personal protective equipment worn was two pairs of wrist length rubber gloves and a pair of polyvinyl chloride sleeve protectors. Because the technician was working alone, it is unclear whether the spill was from the digestion cup or the bulk acid container. The technician sustained burns to 9% of his body, despite washing his legs with water from a makeshift plumbing arrangement that supplied water at 6 litres/min. Following flushing, the technician, who appeared to be in severe pain and shock, immersed himself in a chlorinated swimming

pool at the rear of the workplace, where he remained for approximately 35-40 minutes before ambulance help arrived.

The injured man was hypothermic and hypocalcaemic on admission to an intensive care unit at a nearby hospital, and soon became unconscious. His condition continued to deteriorate despite subcutaneous injections of calcium gluconate and administration of intravenous calcium and magnesium. His right leg was amputated seven days after the incident. He subsequently died from multi-organ failure 15 days after the hydrofluoric acid spill.

POINTS FROM ACCIDENT INVESTIGATION

Investigation showed that this death could have been prevented if adequate personal protective equipment had been worn during the handling of concentrated hydrofluoric acid.

Full length PVC coveralls with sleeves to the wrist or a full-length PVC apron with sleeve protectors, a face shield, rubber boots, safety goggles, and mid-arm length PVC gloves should have been worn by the deceased when HF was being used in the fume hood.

The deceased did not have access to an emergency shower to remove the HF, instead the skin was washed from a hose that provided water at a very low flow rate. Because of the low flow rate, the volume of water may have spread the HF onto other parts of the skin.

No calcium gluconate gel was applied following dermal exposure. Inhalation may also have been another route of exposure due to the relatively high vapor pressure of HF acid.

An ergonomic assessment of the work station indicated that the digestion cups were unstable due to lightweight construction and there was a lack of available space in the fume hood resulting in the movement of decanting from the HF container being awkward, involving the pronation of the forearm.

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Exposure (Continued)

The laboratory personnel could have minimized the likelihood of a spill through the introduction of cup supports for the digestion cups, more working space in the fume hood, use of smaller sized bottles or better designed acid containers to minimize awkward pouring postures or introduction of graduated dispensing unit to negate pouring the acid.

Overall, it was noted that the laboratory did not comply with requirements of national standards in the areas of emergency procedures, safe handling and disposal of the chemical, and laboratory design. "

Attention Bargain Hunters!

Labs contact the EHSO when they have a surplus of a certain chemical and have no plans to use it in the near future. Most of these chemicals are unopened in their original container. Rather than disposing of the chemicals as hazardous waste, the EHSO collects items as "surplus" and makes them available for *University use* FREE OF CHARGE. Here's a sample of what's currently available. Call the EHSO at 405/271-3000 if you are interested.

Acepromazine Maleate	Ammonium Sulfide
Benzoic Acid	Calcium Oxide
Chloroacetic Acid	Edrophonium Chloride
Glycine Buffer	Guanidine Isothiocyanate
Hexane	Hydroxyapatite
Imidazole	Iodine
Iso-butanol	Lubrol
Magnesium Shavings	Molybdenum Trioxide
Molybdenum Metal Powder	Naphthol
Palladium Barium Sulfate	Phenol
Phthaldialdehyde	Potassium Cyanide
Potassium Ferricyanide	Potassium Meta-Bisulfite
Potassium Dichromate	Potassium Chromate
Propylene Glycol	Protomin Sulfate
Sodium Cacodylate	Sodium Azide
Sodium Carboxy Methyl Cellulose	Sodium Flouride
Sodium Thiosulfate	Sodium Tartrate
Sodium Oxalate	Trichloroacetic Acid
Vasopressin	

Hazards of Laser Surgery Smoke

From: OSHA Hazard Information Bulletin and NIOSH Hazard Controls

With the use of lasers to perform surgery gaining wide acceptance in recent years, the issue of the hazards of the smoke generated in the process has gained the attention of the Occupational Safety and Health Administration (OSHA) and National Institute for Occupational Safety and Health (NIOSH). Carbon dioxide lasers are the most frequently used laser in surgery due to their precise cutting ability, coagulating effect on small blood vessels, and low trauma to surrounding tissue areas. The energy supplied at the focal point of the carbon dioxide laser is so great that the tissue and fluid are vaporized, creating a smoke byproduct which contains toxic gases and vapors such as benzene,

hydrogen cyanide, and formaldehyde; bioaerosols; dead and live cellular material (including blood fragments); and viruses.

According to NIOSH, at high concentrations the smoke causes ocular and upper respiratory tract irritation in health care personnel, creates visual problems for the surgeon, has unpleasant odors and has been shown to have mutagenic potential. One study performed found that a significant portion of the particles in the smoke was in the range of 0.5-5.0 um which are too small to be effectively filtered by surgical masks. The most recent study cited by OSHA analyzed the vapor produced by the carbon dioxide laser during vaporization of papillomavirus infected verrucae (warts). This study concluded that intact viral DNA was liberated into the air with the plume of laser-treated verrucae. Papillomavirus DNA has been demonstrated to be infectious. OSHA states that the smoke plume should be assumed to be infectious and appropriate precautions, such as a well maintained vacuum apparatus should be observed. "

Fisher-Price Announces Recall to Repair Power Wheels Ride-on Battery-powered Vehicles

Taken from CPSC

In cooperation with the U.S. Consumer Product Safety Commission (CPSC), Fisher-Price is conducting a voluntary recall involving battery-powered Power Wheels ride-on cars and trucks. The vehicles' electrical components can overheat and cause fires. Additionally, wiring problems can prevent the vehicles from stopping.

Power Wheels Service Centers will repair the vehicles. These service centers will install the new parts free of charge and give all recalled vehicles a free safety check-up and tune-up. The recalled Power Wheels cars and trucks have been sold under nearly 100 model names. The Power Wheels logo and the model name are on each vehicle. All models with two batteries are recalled, and certain models with one battery are recalled. The company will help consumers identify if their model is part of the recall.

Consumers should remove the vehicles' batteries right away and not let children use these Power Wheels vehicles until the repair has been made at the service center. To schedule the repair, consumers should call Power Wheels at 800/977-7800 anytime or access the company's web site at <http://www.powerwheels.com/special/default.asp>. Power Wheels sold after October 1998 are not involved in this recall. "

Winter Safety Training Dates

Don't forget EVERY employee must have safety training annually.

HEALTH CARE

Initial

Thursday, January 14, 1999
1:00 - 3:30 p.m.
BSEB West Lecture Hall

Refresher

Wednesday, January 20, 1999
1:00 - 3:00 p.m.
BSEB West Lecture Hall

LABORATORY

Initial

Tuesday, December 1, 1998
1:00 - 4:30 p.m.

Refresher

Thursday, January 7, 1999
1:00 - 3:30 p.m.

OFFICE

Initial

Tuesday, December 8, 1998
1:00 - 3:00 p.m.

Refresher

Tuesday, December 15, 1998
1:00 - 2:00 p.m.

All sessions will be held in the Basic Sciences Education Building, West Lecture Hall. For those of you who are due for annual refresher training, you don't want to miss out on these training sessions! When you attend one of the refresher training sessions, you could win prizes. **Hint.** If you don't come, you could be in *Jeopardy!*

You may register one of three ways: call 405/271-3000, e-mail Mary-Baisch@ouhsc.edu, or visit our home page at <http://w3.ouhsc.edu/ehso> for on-line registration. Please register and arrive early to allow time to sign in and receive handouts. If you aren't sure when you last attended training, or if you want more hints about the refresher training session, call us at 405/271-3000.

Reservations on the basis of disability may be made with Mary Baisch, OUHSC, EHSO, 800 Northeast 15th Street, Room 301 (ROB 301), Oklahoma City, OK 73104. Further information may be obtained by contacting the EHSO at 405/271-3000.

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Saf•T•Gram

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